

```
#!/bin/bash
#
# Copyright (c) 2004 TRUNASUCI
#
# HOW-TO ni ditulis berdasarkan pada pengalaman aku jerk.. dan korang
# digalakkan mencuba sendiri. Setakat ini ia telah dicuba beberapa kali dan
# terbukti berjaya ( tatau la korang pulak test camne )..
#
# MyLinux Webnet Group
#
# #mylinux      #mybsd      #linux #chroot      (webnet)
# #mylinux      #mybsd      #linux      (DALnet)
#
# trunasuci@linuxmail.org
# trunasuci@bsdmail.org
# trunasuci@linux.com.my
#
#
```

## **Disclaimer:**

Seperti yg aku tulis kat atas tuh, guide nih aku tulis based pada experience aku dalam linux/OSS so kalau korang nak test dan guna, atas risk korang sendiri...

#### **Revision History:**

Revision 0.1                    Somewhere around 2003/2004  
Ditulis ketika aku baru lepas kompile beberapa kernel 2.4.26 dan 2.6.2, ambik snapshot dan tulis mana2 yg patut...

Revision 0.2                    8 Nov 2004 12:30 tgh malam  
Ada beberapa pembetulan dari HOW-TO asal, mcm add part bootloader, pasal mende nih tak lengkap+cukup.. kalau tak camana nak boot? pastuh bikin FastTrack/nota ringkas... nih pun pasal byk org komplen.. bagusla tuh.. pasnih aku wat HOW-TO slackware plaks ( mentang2 dah switch/pakai Slackware weheheheh ).. nih pun pas setel layan DVD The Chronicles Of RIDDICK Pt1 ( PITCH BLACK ) + Pt2 dan I-ROBOT..

# HOW-TO COMPILE KERNEL LINUX

Disebabkan banyak sgt insan2 yg nak suh aku tulis how-to pasal kompil kernel nih, nih bukan official tapi cara aku sendirik so kalau jadikle pape ke jgn mare aku ah.. so far aku bikin alhamdulillah.. menjadik.. kat RedHat ke, Slackware ke.. so kira boleh pakai le.. dan aku dah test kat Pc biasa, working server dari pentium sampaila XEON dan AMD semua cuntek tarak hapa.. So berbalik pada tujuan asalnya kompile kernel ataupun recompile kernel nih.. banyak sebab kenapa elok kita compile atau re-compile kernel nih

sebenarnya.. basicnya system linux nih masa korang install, dia pun takle tepat sgt setting semua hardware ke apa2.. banyak pakai generic dan tak berapa specific.. jalan tuh mmg le jalan, bukan tak jalan maaa.. tapi kata org le.. sepatutnya boleh lari lagik laju tuh.. dah kurang cikit la.. so rahsia sistem yg power2 tune-up salah satunya

kat compiling kernel la.. kalau tak caya lepas je korang install fresh RedHat 7.3 ataupun 9.0 (aku assume korang pakai pIII atau p4), cuba check config kernel kat processor (nanti aku ajorle jap agi) mesti dia detect pII je.. kenapa? tak percaya? pasalnya masa install system hanya ambik family architechture yg paling low skali dalam i686.. so selagi korang tak recompile balik kernel.. sampai bila2 dia run ikut spec pII je le.. :)

Satu lagi pasal drivers hardware dan lain2.. nih mmg penting.. by default generic punya akan create banyak drivers dan modul2 yg "ready" untuk "plug and play".. tak kira la VGA ke, sound card ke, network card ke, makin lama makin la banyak drivers dalam kernel yg "disimpan".. takde le semua nak pakai kan? so config ikut hardware korang je le.. yg lain2 takyah le "masukkan" skali.. tuh yg wat jadik "berat" tu...

### **Upgrade kernel?**

Yups.. so guide aku nih bukan upgrade menggantikan kernel lama.. boleh, bukan tak boleh tapi kene ingat kalau tersilap pape, bila dah upgrade nih mana leh gostan bang! Kernel takleh nak boot, mende penting semua banyak dalam ada, sudda pinning kapala, reinstall balik le... so cara paling selamat, compile kernel baru tanpa ganggu kernel lama.. so kalau sangkut pape pun, tarak hal.. kernel lama masih ada dan boleh boot...

### **Pakai RPM ke source?**

Guide aku nih pakai source punye.. nih mmg hardcore sket la cara... tapi power, pakai RPM bukan takleh tapi korang takde belajar apa2 la.. pastuh biasanya depa pakai RPM nih upgrade kernel terus, tau2 dah upgrade je, config apa semua masih pakai lama punya.. so takde perubahan apa2 la.. just version je meningkat.. korang pun tak belajar pape..

### **Mana nak carik source kernel ni?**

Mydin ada kut... well.. sebenanya kene download darik site dia:

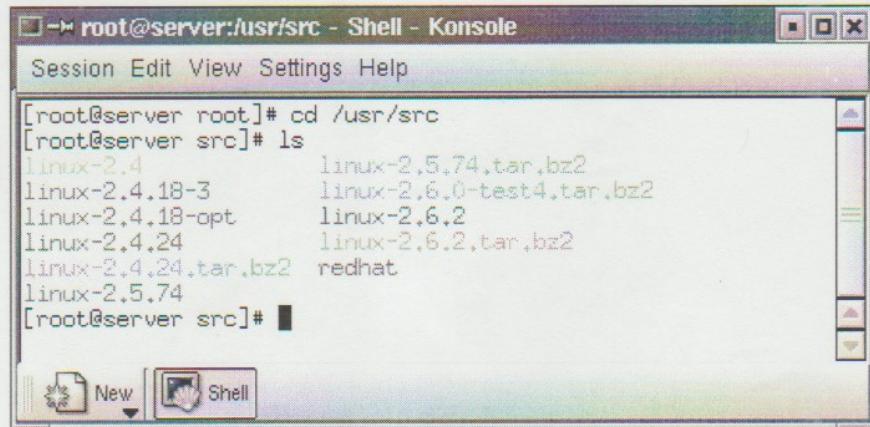
<http://www.kernel.org>

situ ada beberapa version kernel yg korang boleh try.. 2.0.x, 2.2.x, 2.4.x, 2.6.x... 2.5.x aku masih simpan.. tatau la dah stop development agaknya.. kernel version nih kalau no yg 1st tuh major release, 2nd tuh tengok ganjil ke genap la.. kalau ganjil development release, kalau genap consider as stable release... tapi kene check2 gakle.. masa aku dok tulis HOW-TO nih, stable release 2.4.X adalah 2.4.26 dan 2.6.x adalah 2.6.6 (baru je kuar tak sempat test).. so mana yg korang nak kene download? carik Full Source.. jgn ambik patch ke hapa2..

### **Camana nak start nih?**

Ok, so untuk guide nih aku pakai kat platform RedHat 7.3, kalau korang pakai 8.0 ke 9.0 pun boleh, even skang aku test kat Slackware 10 pun ok je.. kalau versi2 lama pun boleh gak.. pastikan kernel-source diinstall dan download ke folder /usr/src .. ingat korang kene jadik root

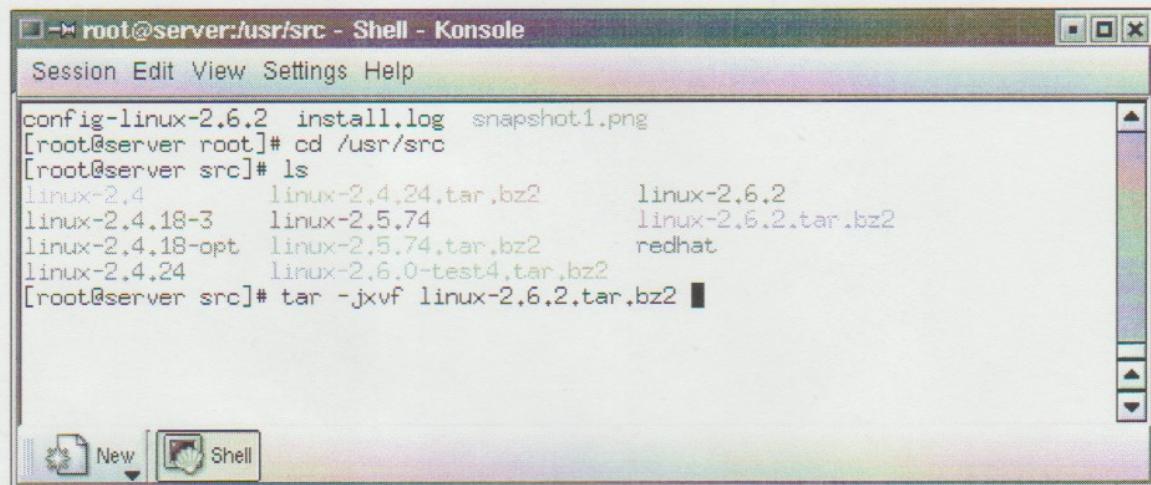
**Let's GO!!!**



```
[root@server root]# cd /usr/src
[root@server src]# ls
linux-2.4          linux-2.5.74.tar.bz2
linux-2.4.18-3      linux-2.6.0-test4.tar.bz2
linux-2.4.18-opt    linux-2.6.2
linux-2.4.24        linux-2.6.2.tar.bz2
linux-2.4.24.tar.bz2 redhat
linux-2.5.74
[root@server src]#
```

The terminal window has a menu bar with "Session", "Edit", "View", "Settings", and "Help". At the bottom, there are "New" and "Shell" buttons.

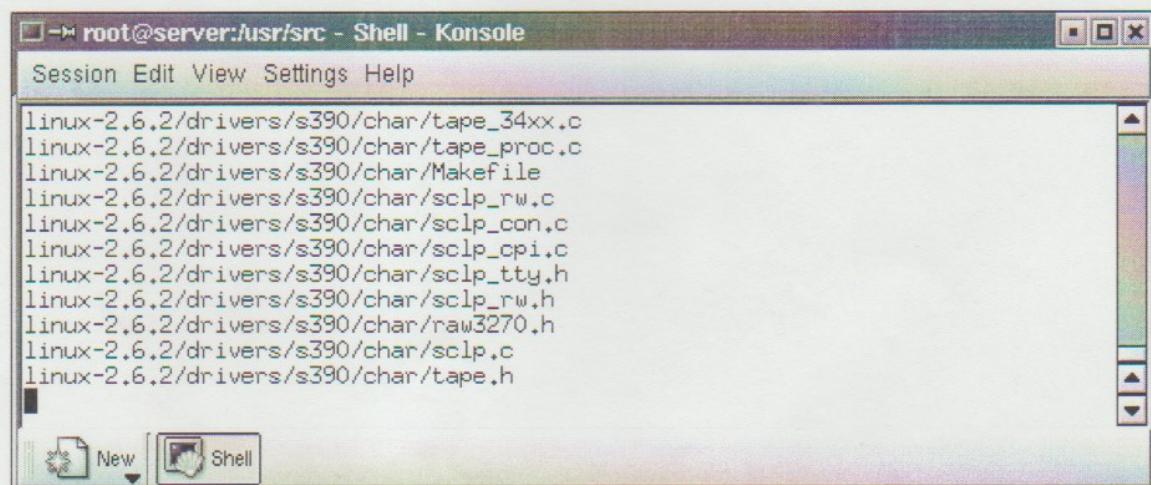
ok nih contohnya, masa aku ambik snapshot nih.. tengah dok godek kernel 2.6.2 lagik, tapi masa aku tulis HOW-TO nih aku dah siap compile dan pakai kernel 2.4.26 dan 2.6.5, tarak hal le.. cara sama je lepas korang dah reti.. rajin2 le sendirik nak try kernel baru..



```
config-linux-2.6.2 install.log snapshot1.png
[root@server root]# cd /usr/src
[root@server src]# ls
linux-2.4          linux-2.4.24.tar.bz2      linux-2.6.2
linux-2.4.18-3      linux-2.5.74           linux-2.6.2.tar.bz2
linux-2.4.18-opt    linux-2.5.74.tar.bz2    redhat
linux-2.4.24        linux-2.6.0-test4.tar.bz2
[root@server src]# tar -jxvf linux-2.6.2.tar.bz2
```

The terminal window has a menu bar with "Session", "Edit", "View", "Settings", and "Help". At the bottom, there are "New" and "Shell" buttons.

ok nih command untuk uncompress kernel yg dtg dalam bentuk tar.bz2. Lepas uncompress je, akan terbentuk satu folder **linux-2.6.2** so kat situh le korang nak godek hapa mende pasal kernel 2.6.2 ni.

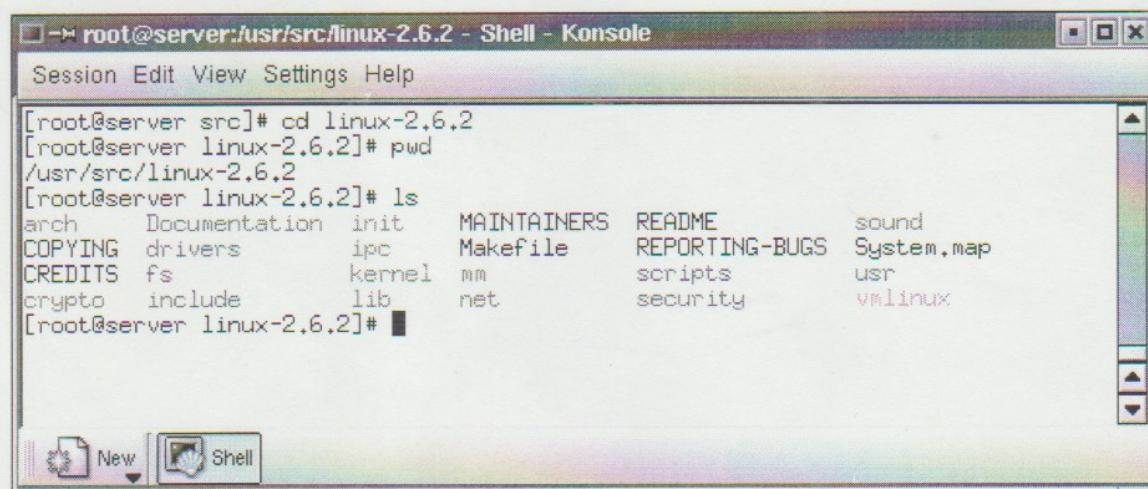


```
linux-2.6.2/drivers/s390/char/tape_34xx.c
linux-2.6.2/drivers/s390/char/tape_proc.c
linux-2.6.2/drivers/s390/char/Makefile
linux-2.6.2/drivers/s390/char/sc1p_rw.c
linux-2.6.2/drivers/s390/char/sc1p_con.c
linux-2.6.2/drivers/s390/char/sc1p_cpi.c
linux-2.6.2/drivers/s390/char/sc1p_tty.h
linux-2.6.2/drivers/s390/char/sc1p_rw.h
linux-2.6.2/drivers/s390/char/raw3270.h
linux-2.6.2/drivers/s390/char/sc1p.c
linux-2.6.2/drivers/s390/char/tape.h
```

The terminal window has a menu bar with "Session", "Edit", "View", "Settings", and "Help". At the bottom, there are "New" and "Shell" buttons.

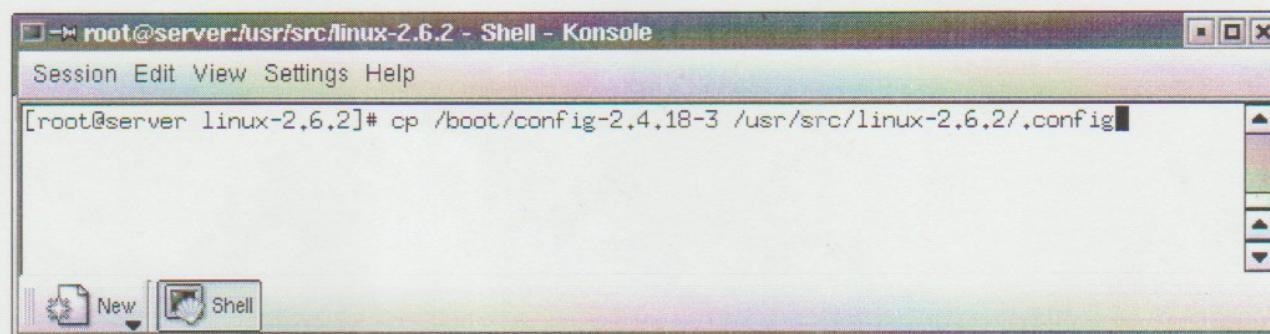
Yeahhh.. prosesss uncompresss sedang berjalan... macam2 leh tengok ( kalau sempat

le.. pasal laju sgt ) dari drivers, architechture processor dan macam2 lagi...



A screenshot of a Linux terminal window titled "root@server:/usr/src/linux-2.6.2 - Shell - Konsole". The window has a menu bar with "Session", "Edit", "View", "Settings", and "Help". The terminal prompt is "[root@server src]#". The user runs several commands: "cd linux-2.6.2", "pwd" (showing "/usr/src/linux-2.6.2"), and "ls" (listing files). The listed files include: arch, Documentation, init, MAINTAINERS, README, sound, COPYING, drivers, ipc, Makefile, REPORTING-BUGS, System.map, CREDITS, fs, kernel, mm, scripts, usr, crypto, include, lib, net, security, and vmlinux.

so korang kalau rasa malas tuh tiru je le bulat2 command aku tuh.. tuh le mende2 dalam folder kernel yg dah selesai di uncompress kan.



A screenshot of a Linux terminal window titled "root@server:/usr/src/linux-2.6.2 - Shell - Konsole". The window has a menu bar with "Session", "Edit", "View", "Settings", and "Help". The terminal prompt is "[root@server linux-2.6.2]#". The user runs the command "cp /boot/config-2.4.18-3 /usr/src/linux-2.6.2/.config".

Nih tips.. cara nak "senang cikit" config kernel.. config asal kernel ada dalam boot ( nih aku "rompak" config RH 7.3 asal ) pastuh save dalam kernel 2.6.2.. tapi masih kene config la.. bukan selamber je takyah wat pape.. cuma save masa cikit la... file tuh nama **.config**

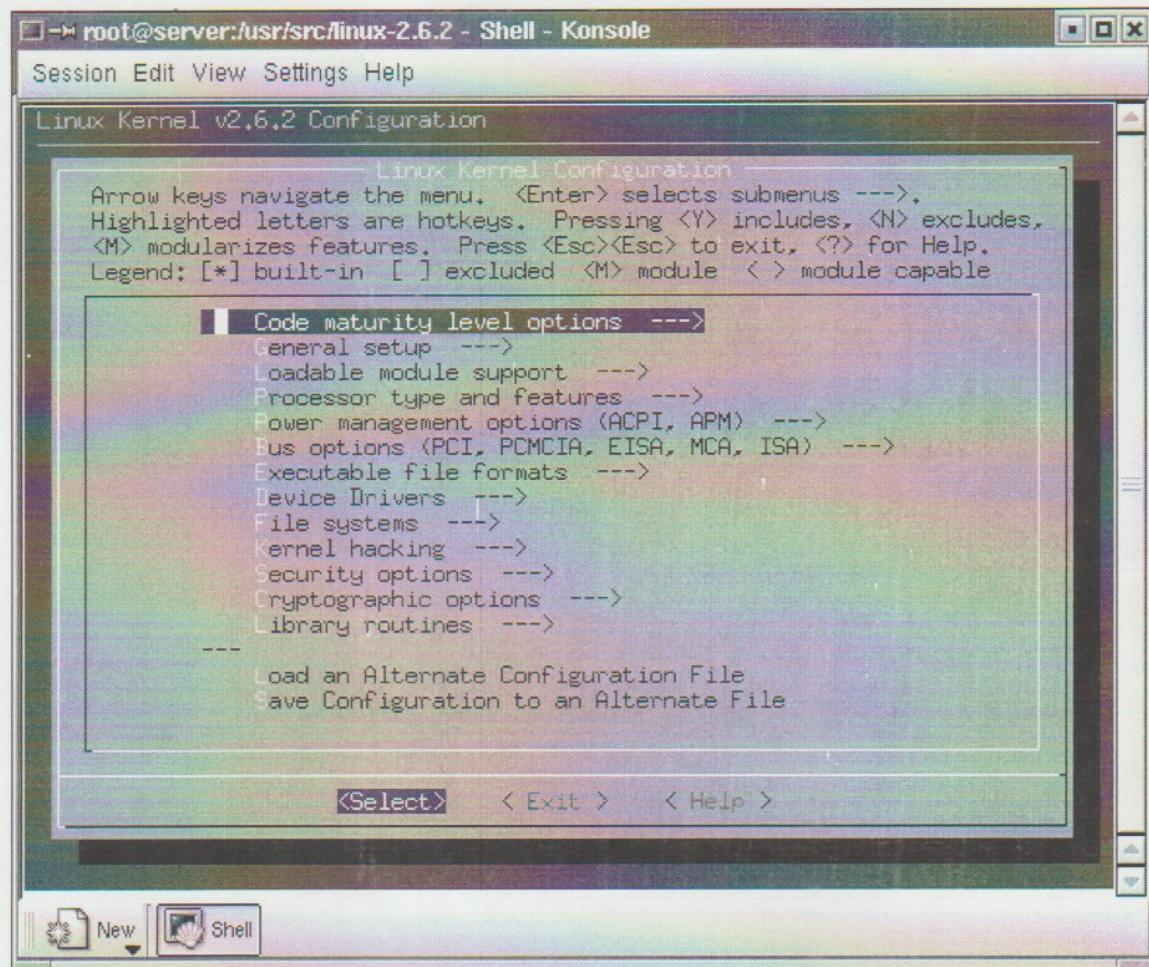
**Make config**

```
[root@server linux-2.6.2]# make config
make[1]: `scripts/fixdep' is up to date.
scripts/kconfig/conf arch/i386/Kconfig
#
# using defaults found in .config
#
*
* Linux Kernel Configuration
*
*
* Code maturity level options
*
Prompt for development and/or incomplete code/drivers (EXPERIMENTAL) [N/y/?]
```

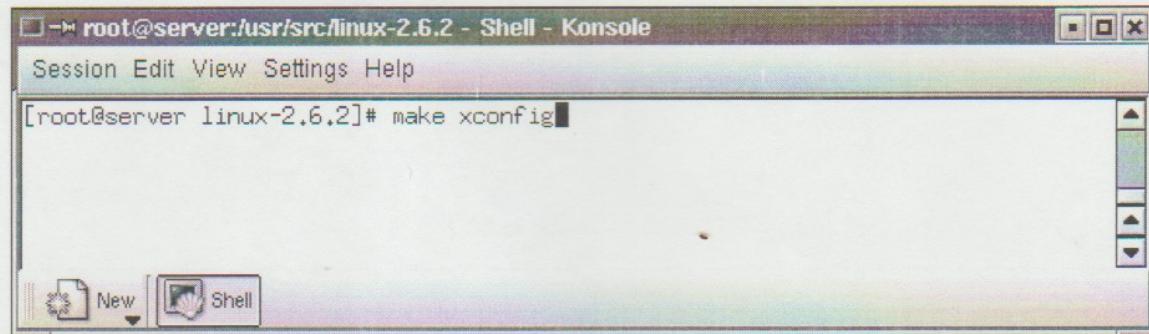
Nih cara config paling classic.. sejak zaman RH5.0 kebawah dah pakai dan kalau korang rasa jari2 tuh "kebal".. try le **make config** ni, semua kene jawap manually satu2.. kalau ada 100 drivers, paham2 le camana ek? nak try cara nih ke? go on.. tapi aku tak suruh pun...

```
[root@server linux-2.6.2]# make menuconfig
```

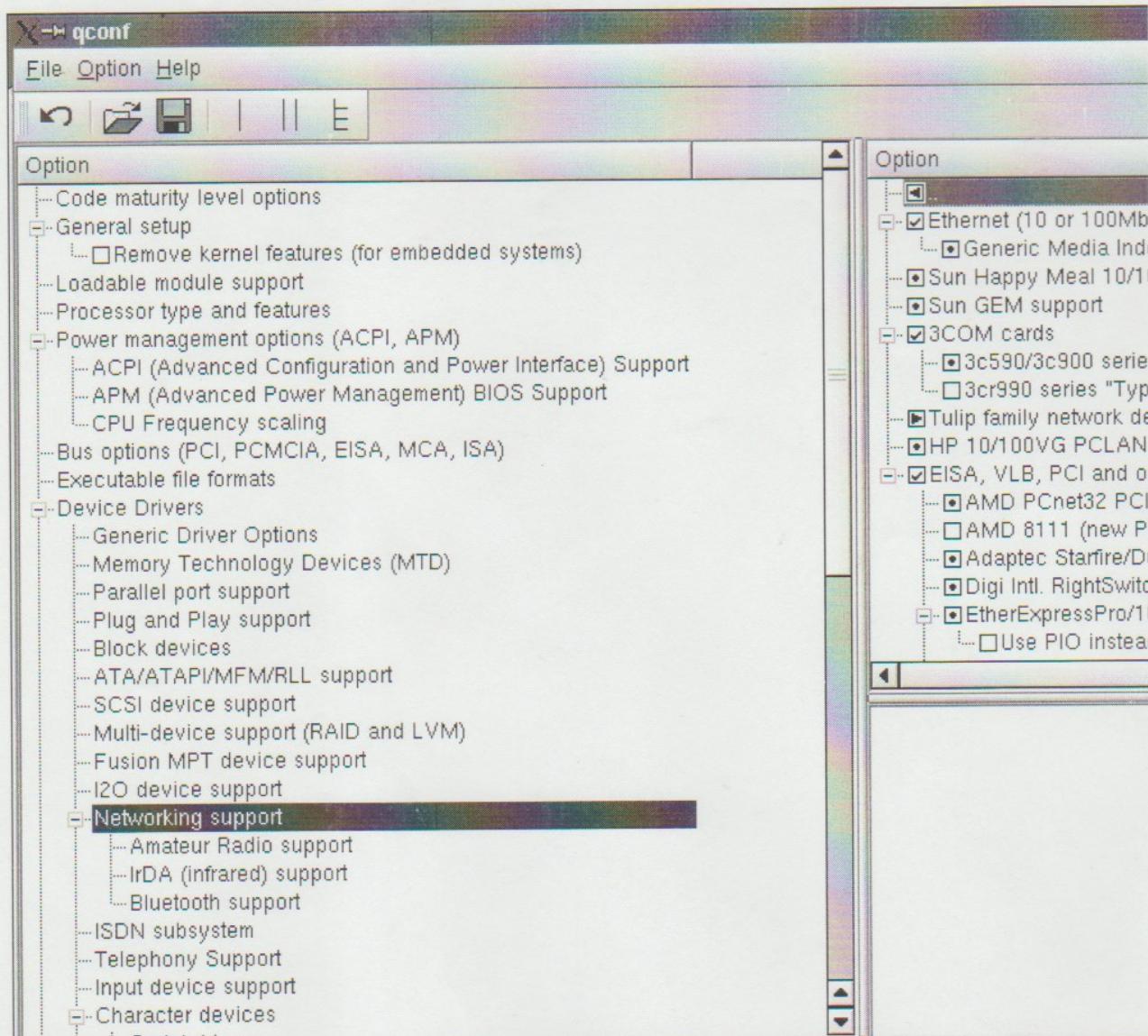
Yg nih aku paling rekemen, pakai **make menuconfig** pasal boleh run kat text mode.. ( aku run compiling kernel nih kat full CLI / text mode pasal nak save resources CPU/RAM untuk kerja2 compile )



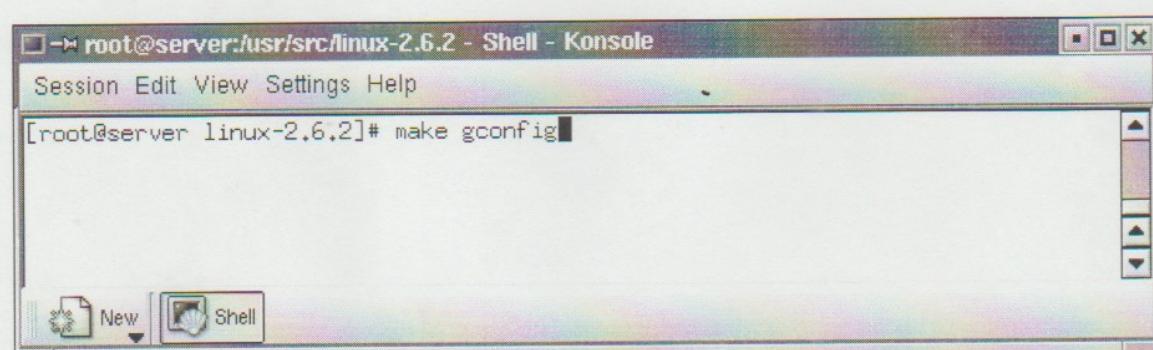
Yeappaaaa.. nih le "ghopenye yop" menu yg kluar pakai **make menuconfig** tadik...



Nih satu lagik cara kalau dalam GUI nak pakai X untuk config.. sukati korang le..



Erm.. rasanya kalau dah masuk sini.. paham2 je le.. klik2 je le sampai bille2..



Nih pun boleh gak..

**Linux Kernel v2.6.2 Configuration**

File Options Help

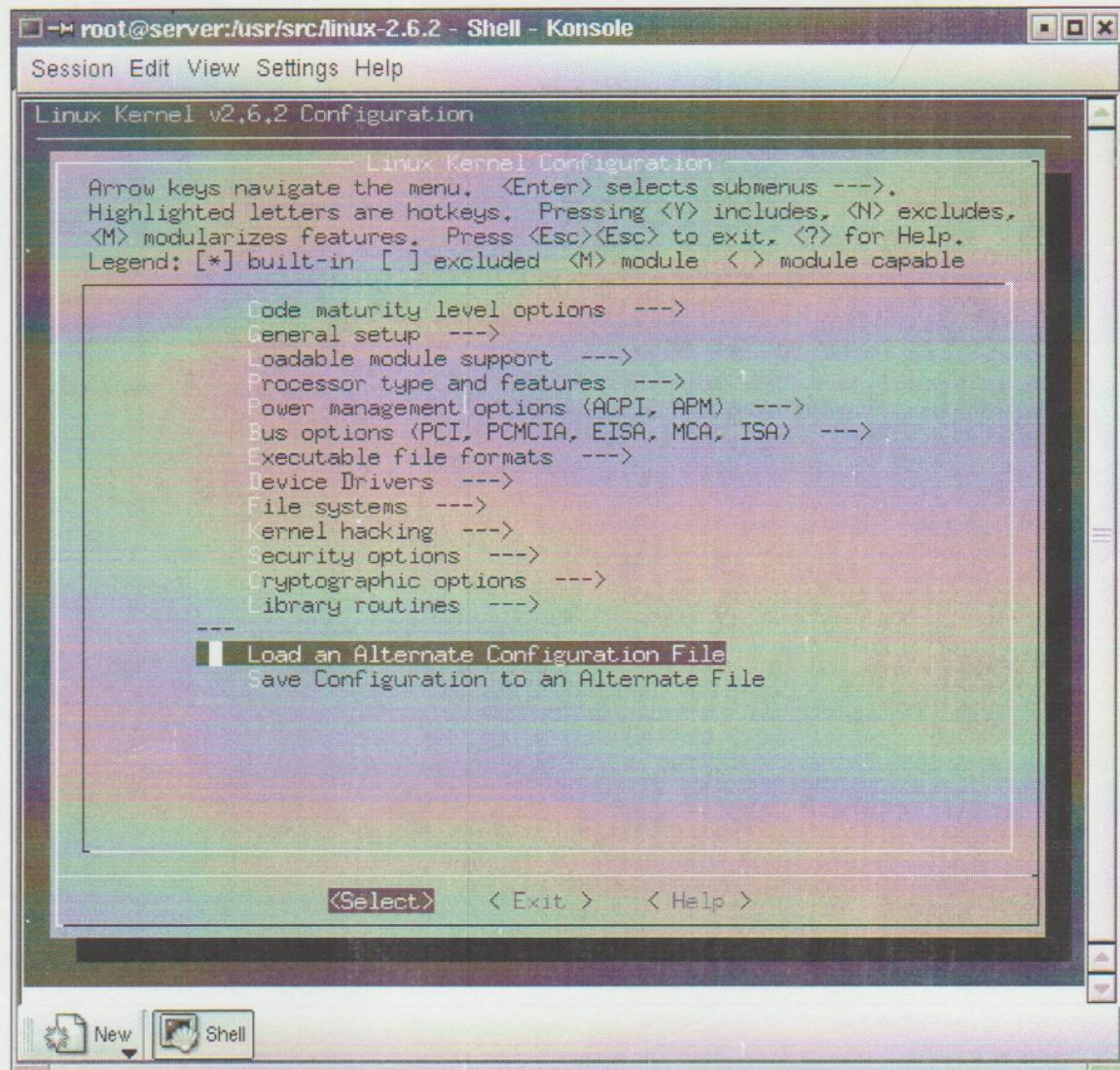
Back Load Save Single Split Full Collapse Expand

Options	Name	N	M	Y	Value
Subarchitecture Type					PC-compatible
Processor family					Pentium-III/Celeron(Coppermine)
386	M386	N	-	N	
486	M486	N	-	N	
586/K5/5x86/6x86/6x86MX	M586	N	-	N	
Pentium-Classic	M586TSC	N	-	N	
Pentium-MMX	M586MMX	N	-	N	
Pentium-Pro	M686	N	-	N	
Pentium-II/Celeron(pre-Coppermine)	MPENTIUMII	N	-	N	
Pentium-III/Celeron(Coppermine)/Pentium-III Xeon	MPENTIUMIII	N	-	Y	Y
Pentium-4/Celeron(P4-based)/Xeon	MPENTIUM4	N	-	N	
K6/K6-II/K6-III	MK6	N	-	N	
Athlon/Duron/K7	MK7	N	-	N	
Opteron/Athlon64/Hammer/K8	MK8	N	-	N	
Elan	MELAN	N	-	N	
Crusoe	MCRUSOE	N	-	N	
Winchip-C6	MWINCHIPC6	N	-	N	
Winchip-2	MWINCHIP2	N	-	N	
Winchip-2A/Winchip-3	MWINCHIP3D	N	-	N	
CyrixIII/VIA-C3	MCYRIXIII	N	-	N	

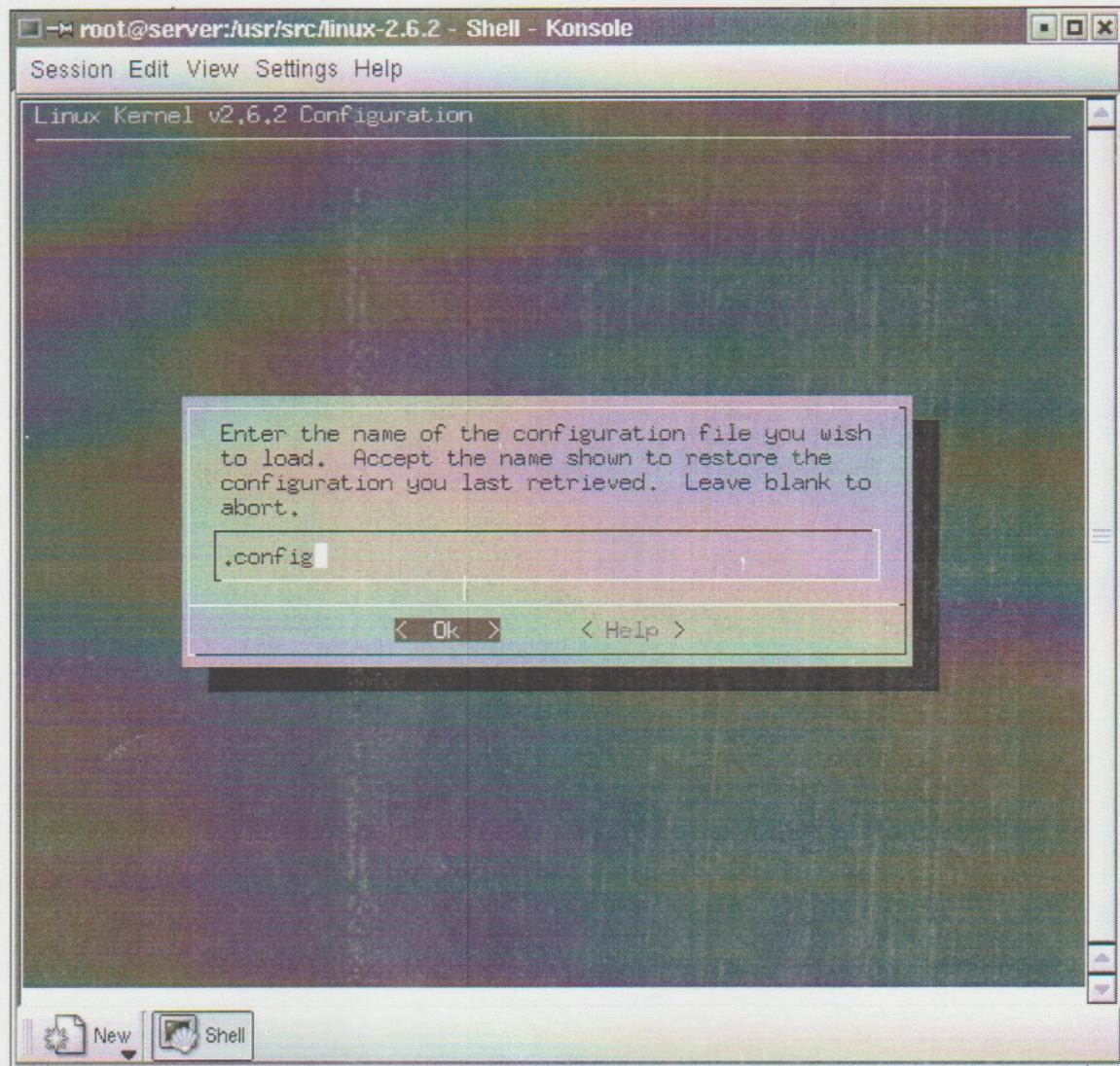
**Pentium-III/Celeron(Coppermine)/Pentium-III Xeon MPENTIUMIII**

Select this for Intel chips based on the Pentium-III and Celeron-Coppermine core. This option enables use of some extended prefetch instructions in addition to the Pentium II extensions.

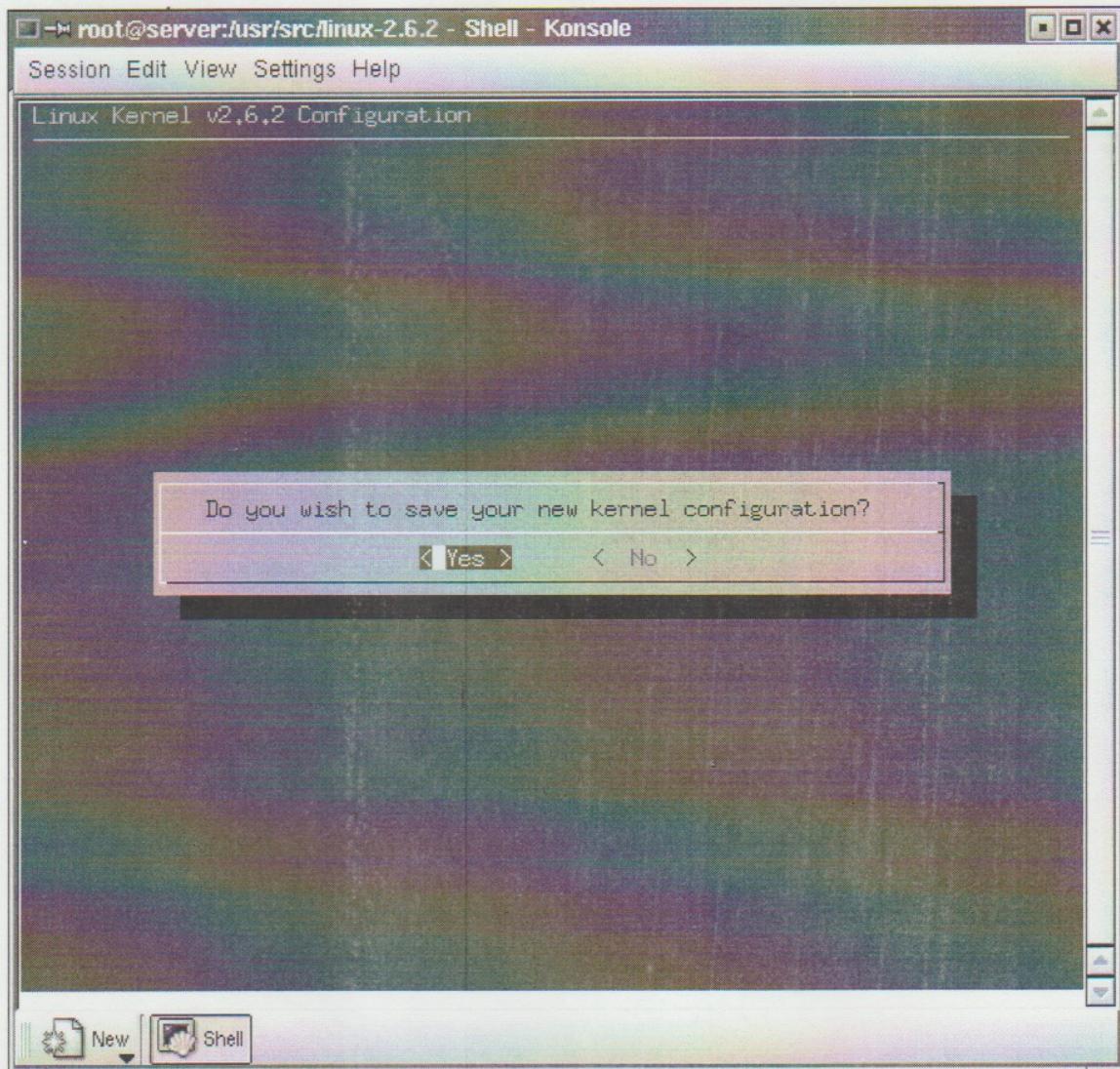
Tgk je le berapa banyak processor kernel linux nih sapot.. tak kisah aa.. Opteron 64-bit dah support lama dah :) sampai le ke 386..



ok berbalik ke cara pakai `make menuconfig` tadik balik.. sonok ek tengok GUI2 yg meriah dengan penuh **grafik pancawarna gilang gemilang terbilang ikan sembilang?** takyah.... belajo pakai text mode dulu... load alternate configuration file tuh kalau nak ambik file `.config` tadik dan loadkan.. pastuh config la



Sendirik2 paham aaaaaaaa....



```
[root@server linux-2.6.2]# make menuconfig
make[1]: 'scripts/fixdep' is up to date.
scripts/kconfig/mconf arch/i386/Kconfig
#
# using defaults found in .config
#
*** End of Linux kernel configuration.
*** Execute 'make' to build the kernel or try 'make help'.

[root@server linux-2.6.2]#
```

Ok masa config ada options < >, < \* >, <M>.. amende tuh? ok to make it simple, < > tuh taknak includekan dalam kernel, < \* > tuh includekan dan <M> tuh modularised kan.. nih biasanya dalam drivers la.. kalau lain2 kadang tuh optionsnya cuma < > dan < \* > saja, so decide la apa nak include ke tak.. modular nih biasanya untuk setkan sesuatu ( biasanya drivers ) untuk wujud tapi berasingan dari kernel dan boleh di"call" atau install menggunakan **insmod/modprobe..**

Ok now dah abis config.. dan save kalau kernel 2.6.x nih run je command **make**

The screenshot shows a terminal window titled "root@server:/usr/src/linux-2.6.2 - Shell - Konsole". The window contains the following text:

```
[root@server linux-2.6.2]# make menuconfig
make[1]: `scripts/fixdep' is up to date.
scripts/kconfig/mconf arch/i386/Kconfig
#
# using defaults found in .config
#
*** End of Linux kernel configuration.
*** Execute 'make' to build the kernel or try 'make help'.

[root@server linux-2.6.2]# make
SPLIT include/linux/autoconf.h -> include/config/*
make[1]: `arch/i386/kernel/asm-offsets.s' is up to date.
CHK include/linux/compile.h
Kernel: arch/i386/boot/bzImage is ready
Building modules, stage 2.
MODPOST
[root@server linux-2.6.2]# make clean
CLEAN arch/i386/boot/compressed
CLEAN arch/i386/boot
CLEAN arch/i386/kernel
CLEAN drivers/char
CLEAN drivers/pci
CLEAN init
CLEAN lib
CLEAN usr
CLEAN scripts/kconfig
CLEAN scripts/lxdialog
CLEAN scripts
RM $(CLEAN_FILES)
[root@server linux-2.6.2]#
```

The terminal window has a standard KDE-style interface with icons for "New" and "Shell" in the bottom-left corner.

Make clean nih kalaula nak "cuci" apa2 mende file2 yg banyak2 tuh masa compile tapi sebenarnya tak perlu sgt.. boleh diabaikan.. perlu diingat, comand make nih untuk kernel 2.6.x saja.. kalau kernel 2.4.x kebawah kena run **make dep** dan **make bzImage**

```
CLEAN scripts
RM $(CLEAN_FILES)
[root@server linux-2.6.2]# make modules && make modules_install
HOSTCC scripts/fixdep
HOSTCC scripts/split-include
HOSTCC scripts/conmakehash
HOSTCC scripts/docproc
HOSTCC scripts/kallsyms
CC scripts/empty.o
HOSTCC scripts/mk_elfconfig
MKELF scripts/elfconfig.h
HOSTCC scripts/file2alias.o
HOSTCC scripts/modpost.o
HOSTLD scripts/modpost
HOSTCC scripts/pnmtologo
HOSTCC scripts/bin2c
SPLIT include/linux/autoconf.h -> include/config/*
CC arch/i386/kernel/asm-offsets.s
CHK include/asm-i386/asm_offsets.h
UPD include/asm-i386/asm_offsets.h
CC [M] arch/i386/kernel/msr.o
CC [M] arch/i386/kernel/cpuid.o
CC [M] arch/i386/kernel/microcode.o
CC [M] fs/binfmt_aout.o
CC [M] fs/binfmt_misc.o
CC [M] fs/autofs/dirhash.o
CC [M] fs/autofs/init.o
CC [M] fs/autofs/inode.o
CC [M] fs/autofs/root.o
CC [M] fs/autofs/symlink.o
CC [M] fs/autofs/waitq.o
LD [M] fs/autofs/autofs.o
CC [M] fs/autofs4/init.o
CC [M] fs/autofs4/inode.o
CC [M] fs/autofs4/root.o
```

nih nak create driver2 modules dan installkan skali..

tips: kernel 2.4.x **make dep && make bzImage && make modules && make modules\_install** atau boleh gak kalau rasa rajin nak tunggu, runkan command tuh satu2 :)

The screenshot shows a terminal window titled "root@server:/usr/src/linux-2.6.2 - Shell - Konsole". The window contains a list of kernel modules being installed, followed by a command to depmod. The terminal prompt is "[root@server linux-2.6.2]#".

```
INSTALL drivers/net/starfire.ko
INSTALL drivers/net/sundance.ko
INSTALL drivers/net/sungem.ko
INSTALL drivers/net/sunbeam_phy.ko
INSTALL drivers/net/sunhme.ko
INSTALL net/sunrpc/sunrpc.ko
INSTALL drivers/char/agp/sworks-agp.ko
INSTALL drivers/char/sx.ko
INSTALL drivers/char/synclink.ko
INSTALL fs/sysv/sysv.ko
INSTALL drivers/video/tdfxfb.ko
INSTALL drivers/char/drm/tdfx.ko
INSTALL drivers/net/tlan.ko
INSTALL drivers/net/tun.ko
INSTALL fs/udf/udf.ko
INSTALL fs/ufs/ufs.ko
INSTALL drivers/usb/class/usblp.ko
INSTALL drivers/usb/net/usbnet.ko
INSTALL drivers/usb/serial/usbserial.ko
INSTALL drivers/usb/misc/uss720.ko
INSTALL fs/vfat/vfat.ko
INSTALL drivers/video/vgastate.ko
INSTALL drivers/char/agp/via-agp.ko
INSTALL drivers/net/via-rhine.ko
INSTALL drivers/usb/serial/visor.ko
INSTALL drivers/char/watchdog/w83877f_wdt.ko
INSTALL drivers/usb/input/wacom.ko
INSTALL drivers/char/watchdog/wafer5823wdt.ko
INSTALL drivers/char/watchdog/wdt.ko
INSTALL drivers/char/watchdog/wdt_pci.ko
INSTALL drivers/usb/serial/whiteheat.ko
INSTALL drivers/char/zftape/zftape/zftape.ko
INSTALL drivers/char/zftape/compressor/zft-compressor.ko
INSTALL lib/zlib_deflate/zlib_deflate.ko
if [ -r System.map ]; then /sbin/depmod -ae -F System.map 2.6.2; fi
[root@server linux-2.6.2]#
```

Yarribaaa.. sudda siap... tapi ada part belum setel..

## Kernel 2.4.x

So jgn confuse, download + uncompress ngan config sama je method 2.4.x ngan 2.6.x, beza cikit je part compile..

```
[root@server linux-2.6.2]# make bzImage
make[1]: `arch/i386/kernel/asm-offsets.s' is up to date.
  CC      init/main.o
  CHK    include/linux/compile.h
  UPD    include/linux/compile.h
  CC      init/version.o
  CC      init/do_mounts.o
  CC      init/do_mounts_rd.o
  CC      init/do_mounts_initrd.o
  LD      init-mounts.o
  CC      init/initramfs.o
  LD      init-built-in.o
HOSTCC  usr/gen_init_cpio
CPIO    usr/initramfs_data.cpio
GZIP    usr/initramfs_data.cpio.gz
AS      usr/initramfs_data.o
LD      usr/built-in.o
  CC      arch/i386/kernel/process.o
  CC      arch/i386/kernel/semaphore.o
  CC      arch/i386/kernel/signal.o
  AS      arch/i386/kernel/entry.o
  CC      arch/i386/kernel/traps.o
  CC      arch/i386/kernel/irq.o
  CC      arch/i386/kernel/vm86.o
  CC      arch/i386/kernel/ptrace.o
  CC      arch/i386/kernel/i8259.o
  CC      arch/i386/kernel/ioport.o
  CC      arch/i386/kernel/ldt.o
  CC      arch/i386/kernel/setup.o
  CC      arch/i386/kernel/time.o
  CC      arch/i386/kernel/sys_i386.o
  CC      arch/i386/kernel/pci-dma.o
  CC      arch/i386/kernel/i386_ksyms.o
  CC      arch/i386/kernel/i387.o
```

```

root@server:/usr/src/linux-2.6.2 - Shell - Konsole
Session Edit View Settings Help
AS      arch/i386/lib/getuser.o
CC      arch/i386/lib/memcpy.o
CC      arch/i386/lib/strstr.o
CC      arch/i386/lib/usercopy.o
AR      arch/i386/lib/lib.a
GEN      .version
CHK      include/linux/compile.h
UPD      include/linux/compile.h
CC      init/version.o
LD      init/built-in.o
LD      .tmp_vmlinux1
KSYM     .tmp_kallsyms1.S
AS      .tmp_kallsyms1.o
LD      .tmp_vmlinux2
KSYM     .tmp_kallsyms2.S
AS      .tmp_kallsyms2.o
LD      vmlinux
AS      arch/i386/boot/bootsect.o
LD      arch/i386/boot/bootsect
AS      arch/i386/boot/setup.o
LD      arch/i386/boot/setup
AS      arch/i386/boot/compressed/head.o
CC      arch/i386/boot/compressed/misc.o
OBJCOPY arch/i386/boot/compressed/vmlinux.bin
GZIP      arch/i386/boot/compressed/vmlinux.bin.gz
LD      arch/i386/boot/compressed/piggy.o
LD      arch/i386/boot/compressed/vmlinux
OBJCOPY arch/i386/boot/vmlinux.bin
HOSTCC arch/i386/boot/tools/build
BUILD    arch/i386/boot/bzImage
Root device is (3, 1)
Boot sector 512 bytes.
Setup is 4832 bytes.
System is 1084 kB
Kernel: arch/i386/boot/bzImage is ready
[root@server linux-2.6.2]#

```

New    Shell

Nih kalau nak setkan make bzImage manually.. actually takyah pasal masa make tadik dah bikin, nih contoh kalau kernel 2.4.x je so pastuh copykan file bzImage tuh kat folder /boot dan namakan as vmlinuz-2.6.2

## Fast Track:

### **Kernel 2.6.x:**

- 1-Download + uncompress kernel kat /usr/src ( tar -jxvf linux-2.6.2.tar.bz2 )
- 2-pindah/copy config file ( kalau nak senang ) dan save as .config dalam folder kernel yg baru
- 3-Config kernel - make config / make menuconfig / make gconfig / make oldconfig - pilih mana suka..  
lepas config, save...
- 4-Compile kernel - make
- 5-Compile + install modules/drives - make modules && make modules\_install
- 6-Copy bzImage dari /usr/src/linux-2.6.2/arch/i386/bzImage ke /boot:

```
cp /usr/src/linux-2.6.2/arch/i386/bzImage /boot
```

7-create initrd:

```
initrd -f -v 2.6.2.img 2.6.2
```

8>Edit bootloader ( GRUB ) supaya baca ke kernel baru.. tambah kat file /boot/grub/menu.lst:

```
Title Kernel baru 2.6.x
```

```
root (hd0,0)
```

```
kernel /boot/vmlinuz-2.6.2 ro root=/dev/hda1
```

```
initrd /boot/initrd-2.6.2.img
```

9-Reboot! siap!

### **Kernel 2.4.x:**

1-Download + uncompress kernel kat /usr/src ( tar -jxvf linux-2.4.26.tar.bz2 )

2-pindah/copy config file ( kalau nak senang ) dan save as .config dalam folder kernel yg baru

3-Config kernel - make config / make menuconfig / make gconfig / make oldconfig - pilih mana suka..

lepas config, save...

4-Compile kernel - make dep && make bzImage

5-Compile + install modules/drives - make modules && make modules\_install

6-Copy bzImage dari /usr/src/linux-2.4.26/arch/i386/bzImage ke /boot:

```
cp /usr/src/linux-2.4.26/arch/i386/bzImage /boot
```

7-create initrd:

```
initrd -f -v 2.4.26.img 2.4.26
```

8>Edit bootloader ( GRUB ) supaya baca ke kernel baru.. tambah kat file /boot/grub/menu.lst:

```
Title Kernel baru 2.4.26
```

```
root (hd0,0)
```

```
kernel /boot/vmlinuz-2.4.26 ro root=/dev/hda1
```

```
initrd /boot/initrd-2.4.26.img
```

9-Reboot! siap!

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Anda boleh mencetak, mengedarkan, mem"pirate" HOW-TO ni sesuka hati anda dengan syarat anda tak mengubah apa2 kandungan didalamnya. Segala masalah yg timbul adalah tanggungan anda sendiri, tiada kaitan antara yg hidup atau yg mati. Dan jgn jadikan hidup anda diselubungi MISTERIIIIII....

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"Use the force, read + hack the source!"